SEQUENCE LISTING

<110> SAARMA, Mart et al.

<120> NOVEL NEUROTROPHIC FACTOR PROTEIN AND USES THEREOF

<130> 0933-0210P

<140> US 10/648,361
<141> 2003-08-27

<150> US 60/406,927
<151> 2002-08-30

<160> 22

<170> PatentIn version 3.2

<210> 1
<211> 564
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)..(564)

<400> 1

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atg tgg tgc gcg agc cca gtt gct gtg gtg gcc ttt tgc gcc ggg ctt   48
Met Trp Cys Ala Ser Pro Val Ala Val Val Ala Phe Cys Ala Gly Leu
  1               5                  10                  15

ttg gtc tct cac ccg gtg ctg acg cag ggc cag gag gcc ggg ggg cgg   96
Leu Val Ser His Pro Val Leu Thr Gln Gly Gln Glu Ala Gly Gly Arg
             20                  25                  30

cca ggg gcc gac tgt gaa gta tgt aaa gaa ttc ttg aac cga ttc tac   144
Pro Gly Ala Asp Cys Glu Val Cys Lys Glu Phe Leu Asn Arg Phe Tyr
         35                  40                  45

aag tca ctg ata gac aga gga gtt aac ttt tcg ctg gac act ata gag   192
Lys Ser Leu Ile Asp Arg Gly Val Asn Phe Ser Leu Asp Thr Ile Glu
     50                  55                  60

aaa gaa ttg atc agt ttt tgc ttg gac acc aaa gga aaa gaa aac cgc   240
Lys Glu Leu Ile Ser Phe Cys Leu Asp Thr Lys Gly Lys Glu Asn Arg
 65                  70                  75                  80

ctg tgc tat tat cta gga gcc aca aaa gac gca gcc aca aag atc cta   288
Leu Cys Tyr Tyr Leu Gly Ala Thr Lys Asp Ala Ala Thr Lys Ile Leu
                 85                  90                  95

agt gaa gtc act cgc cca atg agt gtg cat atg cct gca atg aag att   336
Ser Glu Val Thr Arg Pro Met Ser Val His Met Pro Ala Met Lys Ile
            100                 105                 110

tgt gag aag ctg aag aag ttg gat agc cag atc tgt gag ctg aaa tat   384
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Cys Glu Lys Leu Lys Lys Leu Asp Ser Gln Ile Cys Glu Leu Lys Tyr
        115                 120                 125

gaa aaa aca ctg gac ttg gca tca gtt gac ctg cgg aag atg aga gtg   432
Glu Lys Thr Leu Asp Leu Ala Ser Val Asp Leu Arg Lys Met Arg Val
    130                 135                 140

gca gag ctg aag cag atc ctg cat agc tgg ggg gag gag tgc agg gcc   480
Ala Glu Leu Lys Gln Ile Leu His Ser Trp Gly Glu Glu Cys Arg Ala
145                 150                 155                 160

tgt gca gaa aaa act gac tat gtg aat ctc att caa gag ctg gcc ccc   528
Cys Ala Glu Lys Thr Asp Tyr Val Asn Leu Ile Gln Glu Leu Ala Pro
                165                 170                 175

aag tat gca gcg aca cac ccc aaa aca gag ctc tga                   564
Lys Tyr Ala Ala Thr His Pro Lys Thr Glu Leu
            180                 185
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<210> 2
<211> 187
<212> PRT
<213> Homo sapiens

<400> 2

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Met Trp Cys Ala Ser Pro Val Ala Val Val Ala Phe Cys Ala Gly Leu
  1               5                  10                  15
Leu Val Ser His Pro Val Leu Thr Gln Gly Gln Glu Ala Gly Gly Arg
             20                  25                  30
Pro Gly Ala Asp Cys Glu Val Cys Lys Glu Phe Leu Asn Arg Phe Tyr
         35                  40                  45
Lys Ser Leu Ile Asp Arg Gly Val Asn Phe Ser Leu Asp Thr Ile Glu
     50                  55                  60
Lys Glu Leu Ile Ser Phe Cys Leu Asp Thr Lys Gly Lys Glu Asn Arg
 65                  70                  75                  80
Leu Cys Tyr Tyr Leu Gly Ala Thr Lys Asp Ala Ala Thr Lys Ile Leu
                 85                  90                  95
Ser Glu Val Thr Arg Pro Met Ser Val His Met Pro Ala Met Lys Ile
            100                 105                 110
Cys Glu Lys Leu Lys Lys Leu Asp Ser Gln Ile Cys Glu Leu Lys Tyr
        115                 120                 125
Glu Lys Thr Leu Asp Leu Ala Ser Val Asp Leu Arg Lys Met Arg Val
    130                 135                 140
Ala Glu Leu Lys Gln Ile Leu His Ser Trp Gly Glu Glu Cys Arg Ala
145                 150                 155                 160
Cys Ala Glu Lys Thr Asp Tyr Val Asn Leu Ile Gln Glu Leu Ala Pro
                165                 170                 175
Lys Tyr Ala Ala Thr His Pro Lys Thr Glu Leu
            180                 185
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<210> 3
<211> 564
<212> DNA
<213> Mus musculus

<220>
<221> CDS
<222> (1)..(564)

<400> 3
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atg cgg tgc atc agt cca act gct ctg gtg acc ttt tgc gcc ggg ttt   48
Met Arg Cys Ile Ser Pro Thr Ala Leu Val Thr Phe Cys Ala Gly Phe
  1               5                  10                  15

tgt atc tcg aac cct gtg ctg gcg cag ggc ctg gag gcc ggt gtg ggg   96
Cys Ile Ser Asn Pro Val Leu Ala Gln Gly Leu Glu Ala Gly Val Gly
             20                  25                  30

ccg agg gct gac tgt gaa gta tgt aaa gaa ttc tta gac cga ttc tac   144
Pro Arg Ala Asp Cys Glu Val Cys Lys Glu Phe Leu Asp Arg Phe Tyr
         35                  40                  45

aac tcc ctg cta agc aga ggc ata gac ttt tct gcg gac acc ata gag   192
Asn Ser Leu Leu Ser Arg Gly Ile Asp Phe Ser Ala Asp Thr Ile Glu
     50                  55                  60

aaa gag ctg ctc aac ttt tgc tca gat gcc aaa gga aaa gaa aac cgc   240
Lys Glu Leu Leu Asn Phe Cys Ser Asp Ala Lys Gly Lys Glu Asn Arg
 65                  70                  75                  80

ctg tgc tat tat ctg ggg gcc acc aca gat gca gcc acc aag atc cta   288
Leu Cys Tyr Tyr Leu Gly Ala Thr Thr Asp Ala Ala Thr Lys Ile Leu
                 85                  90                  95

gga gaa gtc act cgt ccc atg agt gta cac ata cct gcc gtg aag att   336
Gly Glu Val Thr Arg Pro Met Ser Val His Ile Pro Ala Val Lys Ile
            100                 105                 110

tgt gag aag cta aag aag atg gac agc cag atc tgt gag ctg aaa tac   384
Cys Glu Lys Leu Lys Lys Met Asp Ser Gln Ile Cys Glu Leu Lys Tyr
        115                 120                 125

ggg aag aag ctg gac ttg gcg tcg gtg gac ctg tgg aag atg aga gtg   432
Gly Lys Lys Leu Asp Leu Ala Ser Val Asp Leu Trp Lys Met Arg Val
    130                 135                 140

gca gag cta aag cag atc ctt cag aga tgg ggg gaa gag tgc agg gca   480
Ala Glu Leu Lys Gln Ile Leu Gln Arg Trp Gly Glu Glu Cys Arg Ala
145                 150                 155                 160

tgt gcg gag aaa agt gac tac gtg aac ctc att aga gag ctg gcc ccc   528
Cys Ala Glu Lys Ser Asp Tyr Val Asn Leu Ile Arg Glu Leu Ala Pro
                165                 170                 175

aaa tat gta gag ata tac ccc caa acg gag ctc tga                   564
Lys Tyr Val Glu Ile Tyr Pro Gln Thr Glu Leu
            180                 185
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<210> 4
<211> 187

<212> PRT
<213> Mus musculus

<400> 4
Met Arg Cys Ile Ser Pro Thr Ala Leu Val Thr Phe Cys Ala Gly Phe
1 5 10 15
Cys Ile Ser Asn Pro Val Leu Ala Gln Gly Leu Glu Ala Gly Val Gly
20 25 30
Pro Arg Ala Asp Cys Glu Val Cys Lys Glu Phe Leu Asp Arg Phe Tyr
35 40 45
Asn Ser Leu Leu Ser Arg Gly Ile Asp Phe Ser Ala Asp Thr Ile Glu
50 55 60
Lys Glu Leu Leu Asn Phe Cys Ser Asp Ala Lys Gly Lys Glu Asn Arg
65 70 75 80
Leu Cys Tyr Tyr Leu Gly Ala Thr Thr Asp Ala Ala Thr Lys Ile Leu
85 90 95
Gly Glu Val Thr Arg Pro Met Ser Val His Ile Pro Ala Val Lys Ile
100 105 110
Cys Glu Lys Leu Lys Lys Met Asp Ser Gln Ile Cys Glu Leu Lys Tyr
115 120 125
Gly Lys Lys Leu Asp Leu Ala Ser Val Asp Leu Trp Lys Met Arg Val
130 135 140
Ala Glu Leu Lys Gln Ile Leu Gln Arg Trp Gly Glu Glu Cys Arg Ala
145 150 155 160
Cys Ala Glu Lys Ser Asp Tyr Val Asn Leu Ile Arg Glu Leu Ala Pro
165 170 175
Lys Tyr Val Glu Ile Tyr Pro Gln Thr Glu Leu
180 185

<210> 5
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
Oligonucleotide primer

<400> 5
accatgcggt gcatcagtcc aactgc 26

<210> 6
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
Oligonucleotide primer

<400> 6
ctcatgggac gagtgacttc tcc 23

<210> 7

<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
Oligonucleotide primer

<400> 7
gtcagagctc cgtttggggg tatatc 26

<210> 8
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
Oligonucleotide primer

<400> 8
gagctccgtt tgggggtata tc 22

<210> 9
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
Oligonucleotide primer

<400> 9
accatgtggt gcgcgagccc agttgc 26

<210> 10
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
Oligonucleotide primer

<400> 10
gcacactcat tgggcgagtg acttc 25

<210> 11
<211> 27
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
Oligonucleotide primer

<400> 11
gatcagagct ctgttttggg gtgtgtc 27

<210> 12
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
Oligonucleotide primer

<400> 12
gagctctgtt ttggggtgtg tc 22

<210> 13
<211> 179
<212> PRT
<213> Homo Sapiens

<400> 13

Met Trp Ala Thr Gln Gly Leu Ala Val Arg Val Ala Leu Ser Val Leu
1 5 10 15

Pro Gly Ser Arg Ala Leu Arg Pro Gly Asp Cys Glu Val Cys Ile Ser
20 25 30

Tyr Leu Gly Arg Phe Tyr Gln Asp Leu Lys Asp Arg Asp Val Thr Phe
35 40 45

Ser Pro Ala Thr Ile Glu Asn Glu Leu Ile Lys Phe Cys Arg Glu Ala
50 55 60

Arg Gly Lys Glu Asn Arg Leu Cys Tyr Tyr Ile Gly Ala Thr Asp Asp
65 70 75 80

Ala Ala Thr Lys Ile Ile Asn Glu Val Ser Lys Pro Leu Ala His His
85 90 95

Ile Pro Val Glu Lys Ile Cys Glu Lys Leu Lys Lys Lys Asp Ser Gln
100 105 110

Ile Cys Glu Leu Lys Tyr Asp Lys Gln Ile Asp Leu Ser Thr Val Asp
115 120 125

Leu Lys Lys Leu Arg Val Lys Glu Leu Lys Lys Ile Leu Asp Asp Trp
130 135 140

Gly Glu Thr Cys Lys Gly Cys Ala Glu Lys Ser Asp Tyr Ile Arg Lys
145 150 155 160

Ile Asn Glu Leu Met Pro Lys Tyr Ala Pro Lys Ala Ala Ser Ala Pro
165 170 175

Thr Asp Leu

<210> 14
<211> 153
<212> PRT
<213> Mus musculus

<400> 14

Cys Glu Val Cys Ile Ser Tyr Leu Gly Arg Phe Tyr Gln Asp Leu Lys
1 5 10 15

Asp Arg Asp Val Thr Phe Ser Pro Ala Thr Ile Glu Glu Glu Leu Ile
20 25 30

Lys Phe Cys Arg Glu Ala Arg Gly Lys Glu Asn Arg Leu Cys Tyr Tyr
35 40 45

Ile Gly Ala Thr Asp Asp Ala Ala Thr Lys Ile Ile Asn Glu Val Ser
50 55 60

Lys Pro Leu Ala His His Ile Pro Val Glu Lys Ile Cys Glu Lys Leu
65 70 75 80

Lys Lys Lys Asp Ser Gln Ile Cys Glu Leu Lys Tyr Asp Lys Gln Ile
85 90 95

Asp Leu Ser Thr Val Asp Leu Lys Lys Leu Arg Val Lys Glu Leu Lys
100 105 110

Lys Ile Leu Asp Asp Trp Gly Glu Met Cys Lys Gly Cys Ala Glu Lys
115 120 125

Ser Asp Tyr Ile Arg Lys Ile Asn Glu Leu Met Pro Lys Tyr Ala Pro
130 135 140

Lys Ala Ala Ser Ala Arg Thr Asp Leu
145 150

<210> 15
<211> 153
<212> PRT
<213> Rattus norvegivus

<400> 15

Cys Glu Val Cys Ile Ser Tyr Leu Gly Arg Phe Tyr Gln Asp Leu Lys
1 5 10 15

Asp Arg Asp Val Thr Phe Ser Pro Ala Thr Ile Glu Glu Glu Leu Ile
20 25 30

Lys Phe Cys Arg Glu Ala Arg Gly Lys Glu Asn Arg Leu Cys Tyr Tyr
35 40 45

Ile Gly Ala Thr Asp Asp Ala Ala Thr Lys Ile Ile Asn Glu Val Ser
50 55 60

Lys Pro Leu Ala His His Ile Pro Val Glu Lys Ile Cys Glu Lys Leu
65 70 75 80

Lys Lys Lys Asp Ser Gln Ile Cys Glu Leu Lys Tyr Asp Lys Gln Ile
85 90 95

Asp Leu Ser Thr Val Asp Leu Lys Lys Leu Arg Val Lys Glu Leu Lys
100 105 110

Lys Ile Leu Asp Asp Trp Gly Glu Met Cys Lys Gly Cys Ala Glu Lys
115 120 125

Ser Asp Tyr Ile Arg Lys Ile Asn Glu Leu Met Pro Lys Tyr Ala Pro
130 135 140

Lys Ala Ala Ser Ala Arg Thr Asp Leu
145 150

<210> 16
<211> 153

<212> PRT
<213> Bos Taurus

<400> 16

Cys Glu Val Cys Ile Ser Tyr Leu Gly Arg Phe Tyr Gln Asp Leu Lys
1 5 10 15

Asp Arg Asp Val Thr Phe Ser Pro Ala Ser Ile Glu Lys Glu Leu Ile
20 25 30

Lys Phe Cys Arg Glu Ala Arg Gly Lys Glu Asn Arg Leu Cys Tyr Tyr
35 40 45

Ile Gly Ala Thr Glu Asp Ala Ala Thr Lys Ile Ile Asn Glu Val Ser
50 55 60

Lys Pro Leu Ser His His Ile Pro Val Glu Lys Ile Cys Glu Lys Leu
65 70 75 80

Lys Lys Lys Asp Ser Gln Ile Cys Glu Leu Lys Tyr Asp Lys Gln Ile
85 90 95

Asp Leu Ser Thr Val Asp Leu Lys Lys Leu Arg Val Lys Glu Leu Lys
100 105 110

Lys Ile Leu Asp Asp Trp Gly Glu Thr Cys Lys Gly Cys Ala Glu Lys
115 120 125

Ser Asp Tyr Ile Arg Lys Ile Asn Glu Leu Met Pro Lys Tyr Ala Pro
130 135 140

Lys Ala Ala Ser Ser Arg Thr Asp Leu
145 150

<210> 17
<211> 153
<212> PRT
<213> Gallus gallus

<220>
<221> misc_feature
<222> (123)..(124)
<223> Xaa can be any naturally occurring amino acid

<400> 17

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Cys Glu Val Cys Val Thr Phe Leu Gly Arg Phe Tyr Gln Ser Leu Lys
1               5                   10                  15

Asp Asn Asn Val Glu Phe Thr Pro Ala Ser Ile Glu Lys Glu Leu Met
            20                  25                  30

Lys Ser Cys Arg Glu Ala Lys Gly Lys Glu Asn Arg Leu Cys Tyr Tyr
        35                  40                  45

Ile Gly Ala Thr Ser Asp Ala Ala Thr Lys Ile Ile Asn Glu Val Ser
    50                  55                  60

Lys Pro Met Ser His His Ile Pro Val Glu Lys Ile Cys Glu Lys Leu
65                  70                  75                  80

Lys Lys Lys Asp Ser Gln Ile Cys Glu Leu Lys Tyr Asp Lys Gln Ile
                85                  90                  95

Asp Leu Ser Thr Ala Asp Leu Arg Lys Leu Arg Val Lys Glu Leu Arg
            100                 105                 110

Arg Ile Leu Asp Asp Trp Gly Glu Ala Cys Xaa Xaa Cys Ala Glu Lys
        115                 120                 125

Ser Asp Phe Ile Arg Arg Ile His Glu Leu Met Pro Lys Tyr Ala Pro
    130                 135                 140

Arg Ala Ala Gly Ala Arg Ala Asp Leu
145                 150
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<210> 18
<211> 153
<212> PRT
<213> Xenopus laevis

<400> 18

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Cys Glu Val Cys Val Ser Phe Leu Ser Arg Phe Tyr Gln Ser Leu Lys
1               5                   10                  15

Glu Arg Gln Val Glu Phe Lys Pro Asp Ala Val Glu Lys Glu Leu Leu
            20                  25                  30

Lys Thr Cys Asn Asp Ala Arg Gly Lys Glu Asn Arg Leu Cys Tyr Tyr
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35 40 45

Ile Gly Ala Thr Ser Asp Ala Ala Thr Lys Ile Thr Asn Glu Val Ser
50 55 60

Lys Pro Leu Ser His His Ile Pro Ala Glu Lys Ile Cys Glu Lys Leu
65 70 75 80

Lys Lys Lys Asp Gly Gln Ile Cys Glu Leu Lys Tyr Asp Lys Gln Ile
85 90 95

Asp Leu Ser Thr Val Asp Leu Lys Lys Leu Lys Val Lys Glu Leu Lys
100 105 110

Lys Ile Leu Asp Asp Trp Gly Glu Ser Cys Lys Gly Cys Ala Glu Lys
115 120 125

Ser Asp Phe Ile Arg Lys Ile Asn Glu Leu Met Pro Lys Tyr Ala Pro
130 135 140

His Ala Ala Asn Ala Arg Thr Asp Leu
145 150

<210> 19
<211> 153
<212> PRT
<213> Fugu rubribes

<400> 19

Cys Pro Val Cys Ile Ala Phe Leu Gly Arg Phe Tyr Asp Ser Leu Lys
1 5 10 15

Asp Asn Glu Val Ala Phe Asn Asn Val Asp Ile Glu Lys Ala Leu Thr
20 25 30

Lys Ser Cys Asn Asp Ala Lys Gly Lys Glu Asn Arg Gln Cys Tyr Tyr
35 40 45

Ile Gly Ala Thr Ser Asp Ala Ala Thr Lys Met Ile Asn Glu Val Ser
50 55 60

Lys Pro Met Ser His His Val Pro Val Glu Lys Ile Cys Glu Lys Leu
65 70 75 80

Lys Lys Lys Asp Ser Gln Ile Cys Glu Leu Lys Tyr Asp Lys Gln Leu
85 90 95

Asp Leu Ser Thr Val Asp Leu Lys Lys Leu Lys Val Lys Asp Leu Lys
100 105 110

Lys Val Leu Glu Asp Trp Gly Glu Ser Cys Lys Gly Cys Ala Glu Lys
115 120 125

Ser Asp Phe Ile Arg Lys Ile Thr Glu Leu Met Pro Lys Tyr Ala Pro
130 135 140

Ala Ala Ala Arg Ala Arg Thr Glu Leu
145 150

<210> 20
<211> 153
<212> PRT
<213> Danio rerio

<400> 20

Cys Glu Val Cys Val Gly Phe Leu Gln Arg Leu Tyr Gln Thr Ile Gln
1 5 10 15

Glu Asn Asn Val Lys Phe Asp Ser Asp Ser Ile Glu Lys Ala Leu Leu
20 25 30

Lys Ser Cys Lys Asp Ala Lys Gly Lys Glu Asn Arg Phe Cys Tyr Tyr
35 40 45

Ile Gly Ala Thr Ser Asp Ala Ala Thr Lys Ile Thr Asn Glu Val Ser
50 55 60

Lys Pro Met Ser Tyr His Val Pro Val Glu Lys Ile Cys Glu Lys Leu
65 70 75 80

Lys Lys Lys Asp Ser Gln Ile Cys Glu Leu Lys Tyr Asp Lys Gln Val
85 90 95

Asp Leu Ser Ser Val Asp Leu Lys Lys Leu Lys Val Lys Asp Leu Lys
100 105 110

Lys Ile Leu Glu Glu Trp Gly Glu Ser Cys Lys Gly Cys Val Glu Lys

115 120 125

Ser Asp Phe Ile Arg Lys Ile Asn Glu Leu Met Pro Lys Tyr Ala Pro
130 135 140

Ser Ala Ala Lys Ala Arg Thr Asp Leu
145 150

<210> 21
<211> 146
<212> PRT
<213> Drosophila melanogaster

<400> 21

Cys Glu Val Cys Val Lys Thr Val Arg Arg Phe Ala Asp Ser Leu Asp
1 5 10 15

Asp Ser Thr Lys Lys Asp Tyr Lys Gln Ile Glu Thr Ala Phe Lys Lys
20 25 30

Phe Cys Lys Ala Gln Lys Asn Lys Glu His Arg Phe Cys Tyr Tyr Leu
35 40 45

Gly Gly Leu Glu Glu Ser Ala Thr Gly Ile Leu Asn Glu Leu Ser Lys
50 55 60

Pro Leu Ser Trp Ser Met Pro Ala Glu Lys Ile Cys Glu Lys Leu Lys
65 70 75 80

Lys Lys Asp Ala Gln Ile Cys Asp Leu Arg Tyr Glu Lys Gln Ile Asp
85 90 95

Leu Asn Ser Val Asp Leu Lys Lys Leu Lys Val Arg Asp Leu Lys Lys
100 105 110

Ile Leu Asn Asp Trp Asp Glu Ser Cys Asp Gly Cys Leu Glu Lys Gly
115 120 125

Asp Phe Ile Lys Arg Ile Glu Glu Leu Lys Pro Lys Tyr Ser Arg Ser
130 135 140

Glu Leu
145

<210> 22
<211> 147
<212> PRT
<213> Canorhabditis elegans

<400> 22

Cys Glu Val Cys Lys Lys Val Leu Asp Asp Val Met Ala Lys Val Pro
1 5 10 15

Ala Gly Asp Lys Ser Lys Pro Asp Ala Ile Gly Lys Val Ile Arg Glu
20 25 30

His Cys Glu Thr Thr Arg Asn Lys Glu Asn Lys Phe Cys Phe Tyr Ile
35 40 45

Gly Ala Leu Pro Glu Ser Ala Thr Ser Ile Met Asn Glu Val Thr Lys
50 55 60

Pro Leu Ser Trp Ser Met Pro Thr Glu Lys Val Cys Leu Glu Lys Leu
65 70 75 80

Lys Gly Lys Asp Ala Gln Ile Cys Glu Leu Lys Tyr Asp Lys Pro Leu
85 90 95

Asp Trp Lys Thr Ile Asp Leu Lys Lys Met Arg Val Lys Glu Leu Lys
100 105 110

Asn Ile Leu Gly Glu Trp Gly Glu Val Cys Lys Gly Cys Thr Glu Lys
115 120 125

Ala Glu Leu Ile Lys Arg Ile Glu Glu Leu Lys Pro Lys Tyr Val Lys
130 135 140

Glu Glu Leu
145